

User Manual

2x16 HDMI Switcher AT-HD-V216



BACK



FRONT



TABLE OF CONTENTS

1. Introduction	2
2. Features	2
3. Specification	2
4. Package Contents	3
5. Panel Descriptions	3
5.1 Front Panel	3
5.2 Rear Panel	4
6. Remote Control	4
7. IR Extender	4
7.1 IR Extender Connection	3
7.2 The IR Extender Components Setup	5
8. RS-232 Serial Interface	5
8.1 RS-232 Serial Interface Connect a PC or Control System	5
8.2 RS-232	6
8.3 Commands	6
9. RS-232 Protocol Commands	6
9.1 Standby Mode	6
9.2 Power Off Mode	6
9.3 Front Panel Lock	6
9.4 Unit Reset	6
10. Applications	7
11. Safety Information	8
12. Warranty	9
13. Atlona Product Registration	10

INTRODUCTION

Atlona Technologies' AT-HD-V216 is a 2x16 HDMI Switcher designed to work as a switcher for any High Definition Video application. With 2 HDMI Inputs and 16 HDMI Outputs, the AT-HD-V216 is capable of switching High Definition signal from two sources to sixteen displays. This switcher has multiple control options available including manual, IR Remote, or RS232 Control. HDMI formats can reach resolutions up to 1080p or 1920x1200 and same for DVI. With Automatic input/output HD signals detection and HDCP Compliance, Atlona's 2x16 HDMI Routing Switcher is perfect for all applications switching High Definition Video signals between multiple displays.

FEATURES

- 2x16 HDMI Switcher: 2 HDMI Output, 16 HDMI Inputs
- HDMI with HDCP Digital Video and Digital Audio
- HDMI, DVI and HDCP compliant
- Supports video bandwidth up to 6.75 Gbps (link clock rate of 225 MHz)
- Supports wide range of PC resolutions from VGA to WUXGA 1920x1200 and HDTV/DTV resolutions 480i/480p, 576i/576p, 720p, 1080i, 1080p and 1920x1200
- Compatible with all HDMI devices, PC monitors, Plasma TV display and HDTV
- Supports Digital Video TMDS formats in Deep Color 36bits
- Supports color depth of up to 36
- Bi-direction color space conversion(SCS) between RGB and YCBCR color spaces
- Auto-Scan input and outputs status via LED display on front panel
- Control by Select buttons on front panel, IR Remote Controller, or RS232
- IR Extender with 300M long distance
- Ear mount and 19 inch Rack mountable type panel
- Power supply 12V DC

SPECIFICATIONS

- 2x16 HDMI Switcher: 2 x HDMI Input to 16x HDMI Outputs
- Supports :HDMI Standard, DVI and HDCP Compliant
- Video Support: HDMI and DVI formats up to 1080p or 1920x1200.
- Audio Support: DTS-HD Master Audio, Dolby True -HD & Dolby Digital Plus
- Signal: TMDS Digital Video
- Compliant with HDMI standard: HDMI and HDCP.
- HDTV Support: HDMI formats up to 1080p or 1920x1200 resolution.
- Controls: Manual or IR Remote and IR Extender (Maximum Distance 300M), or RS232
- Data Rates: 250Mbps to 6.75 Gbps.
- Pixel clocks: 25MHz to 225 Mhz.
- HDMI Cable Distance: 40ft at 6.75Gbps.
- Supports digital video standards such as: RGB/YCBCR: 24/30/36-bits; YCBCR :8/10/12/16/20/24-bits; Double data rate interface for RGB/YCBCR: 12/15/18-bits
- Infrared frequency: 38KHz.
- Safety Approvals: CE, FCC, RoHS(2002/95/EC).
- Power Supply: 12V DC



PACKAGE CONTENTS

- 2x16 Switcher Unit (AT-HD-V216)
- Instruction Manual
- IR Remote Control
- Universal AC/DC power adapter: 12VDC
- 19 inch Ear mount pair
- IR Extender receiver
- RS232 package (RS232 DVD Drive & Cable)

PANEL DESCRIPTION

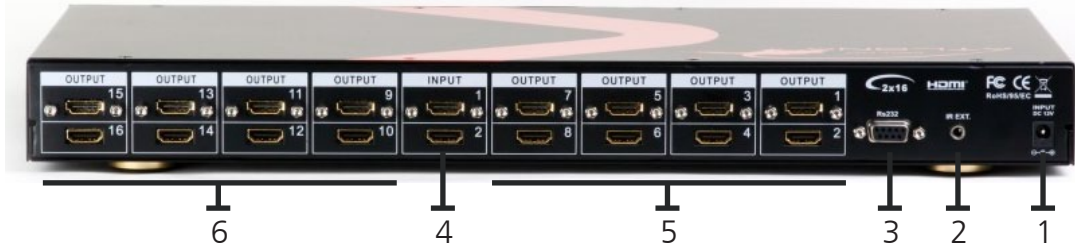
1. Front Panel



- 1. POWER SWITCH.** The power switch turns the unit on and off. The LED will illuminate red to indicate that the switcher is ON
- 2. INPUT SOURCES STATUS DISPLAY.** Input sources 1 - 2 LED illuminates blue to indicate that a video source is present on that input.
- 3. OUTPUT SOURCES STATUS DISPLAY.** Output Channels 1~16 show by LED display.
- 4. OUTPUT CHANNEL DISPLAY.** Separate output 1~2 source channel select displays are provided for each destination.
- 5. SOURCE SELECT BUTTONS.** A separate output 1~2 source select buttons are provided for each destination. Select sources are 1-HDMI or 2-HDMI
- 6. IR SENSOR.** The IR sensor receives IR commands from the supplied remote controller.
- 7. 19 INCH EAR MOUNT PAIR.** 19 inch case Ear Mount pair

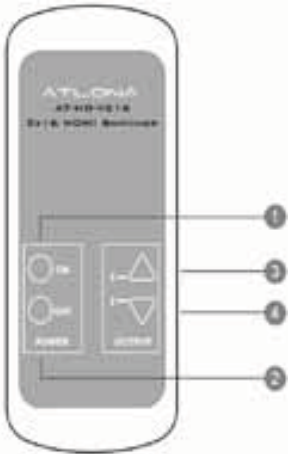


2. Rear Panel



- **DC POWER INLET.** Power Input: 12VDC
- **IR EXTENDER CONTROL.** Support one of IR Extender' extend distance maximum 300 Meters
- **RS232 CONNECTION.** RS232 Remote: DB-9Pin Female connector. RS232 control via this DB-9Pin Female connector for serial RS-232 control.
- **VIDEO INPUTS:** HDMI Input 1-2. HDMI digital video/audio connector (Female)
- **VIDEO OUTPUTS:** HDMI Outputs 1-16. HDMI digital video/audio connector (Female)

REMOTE CONTROL

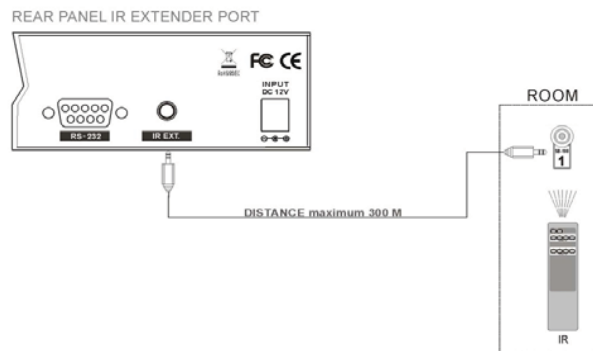


Ensure the mains voltage supply matches the label on the supplied plug-Pack (+/- 10%)
 Ensure that the power switch is OFF
 Connect all audio video sources and destination equipment
 Power up all HD Sources and Displays
 For each desired output select the appropriate input by using the front panel select buttons, RS232 or IR remote control

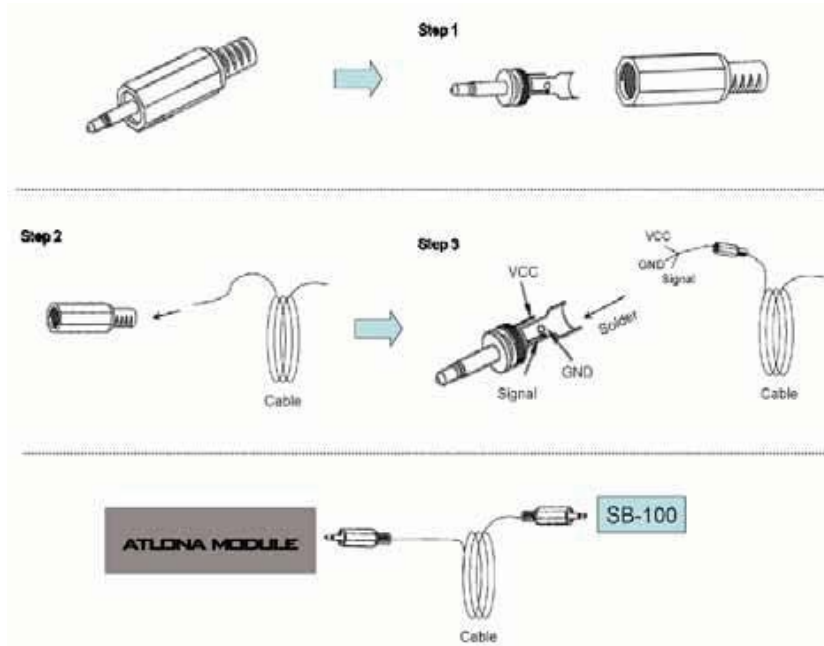
1. SWITCH POWER ON or OFF
2. SWITCH POWER ON or OFF
3. INPUT-1 SOURCES SELECTION
Select input sources 1 or 2 with selection button
4. INPUT-2 SOURCES SELECTION
Select input sources 1 or 2 with selection button

IR EXTENDER

1. IR Extender Connection

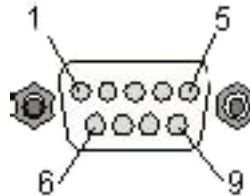


2. The IR Extender Components Setup



RS-232 SERIAL INTERFACE

RS-232 SERIAL INTERFACE CONNECT a PC or CONTROL SYSTEM



Pin	RS-232	Definition
1	-	Not used
2	TX	Transmitter
3	RX	Receiver
4	-	Not Used
5	GND	Ground
6	-	Not used
7	-	Not used
8	-	Not used
9	-	Not used

RS-232

Atlona Technologies' switcher can be controlled via the RS-232 serial control port to allow for interfacing to a PC. The serial communication parameters are 9600 baud, 8 bit, No Parity and 1 stop bit - this is often referred to as 9600 8N1. When the unit recognizes a complete command it will perform the requested action - there is no delimiter character required. The unit does not send out a message when a value is changed from the front panel or by IR control. If the unit needs to be controlled via the front panel in addition to the RS232 control, you should regularly poll the unit status to ensure the control system accurately reflects the current settings, or similar third party control system.

COMMANDS

To Switch Inputs to Outputs

SBIOXOY - Where X is Output Number (1-1) and Y is Number (1-2) Unit will respond with

SBUDOXOY - Where X is Output Number (1-1) and Y is Input Number (1-2)

Example: Send Input 2 to Output 1

SBI02001 -Send

SBUD0201 -Rcvd

RS-232 PROTOCOL COMMANDS

STANDBY MODE

Note: Turning the unit System Power Off over RS232 will distinguish the LED display leaving only the Power Switch LED on. The Video and Audio outputs will also mute. While the unit is turned off by RS232 it will continue to accept and act upon switching commands. For example, if the unit is in the off mode (via RS232) and you send a command to switch an input to an output, that route will complete and the video and audio will now appear on that channel only. The front panel LED for that particular output will also show the input selected (for that single output channel only). The remaining LED's will remain off and video and audio outputs muted. The unit will still return status and change messages in response to commands sent while in Power Off state. A hard reset command (SBALLRST) will return the unit to normal operation and also unlock the front panel.

POWER OFF MODE

SBSYSMOF - Put system into Standby (Soft Power Off) **SBSYSMON** - Bring unit out of Standby (Soft Power On)

Unit will respond with **SBALOFAK** - Unit is in

Standby **SBALONAK** - Unit is no longer in

Standby

Example: Put Unit in Standby (Soft Power)

SBSYSMOF - Send

SBALOFAK - Rcvd

FRONT PANEL LOCK

Note : Hard resetting the unit will unlock the Front Panel controls..

SBSYSMLK - When front panel is locked, changes can only be made by RS-232 **SBSYSMUK**- Front Panel Unlock

Unit will respond with

SBSYSLOK - Front Panel has been Locked **SBSYSULK**- Front Panel has been Unlocked

Example : Lock Front Panel Buttons

SBSYSMLK - Send

SBSYSLOK - Rcvd

UNIT RESET SBALLRST - Reset every output to Input 1

Unit will respond with

SBRSTACK - Unit has reset each Output to Input 1

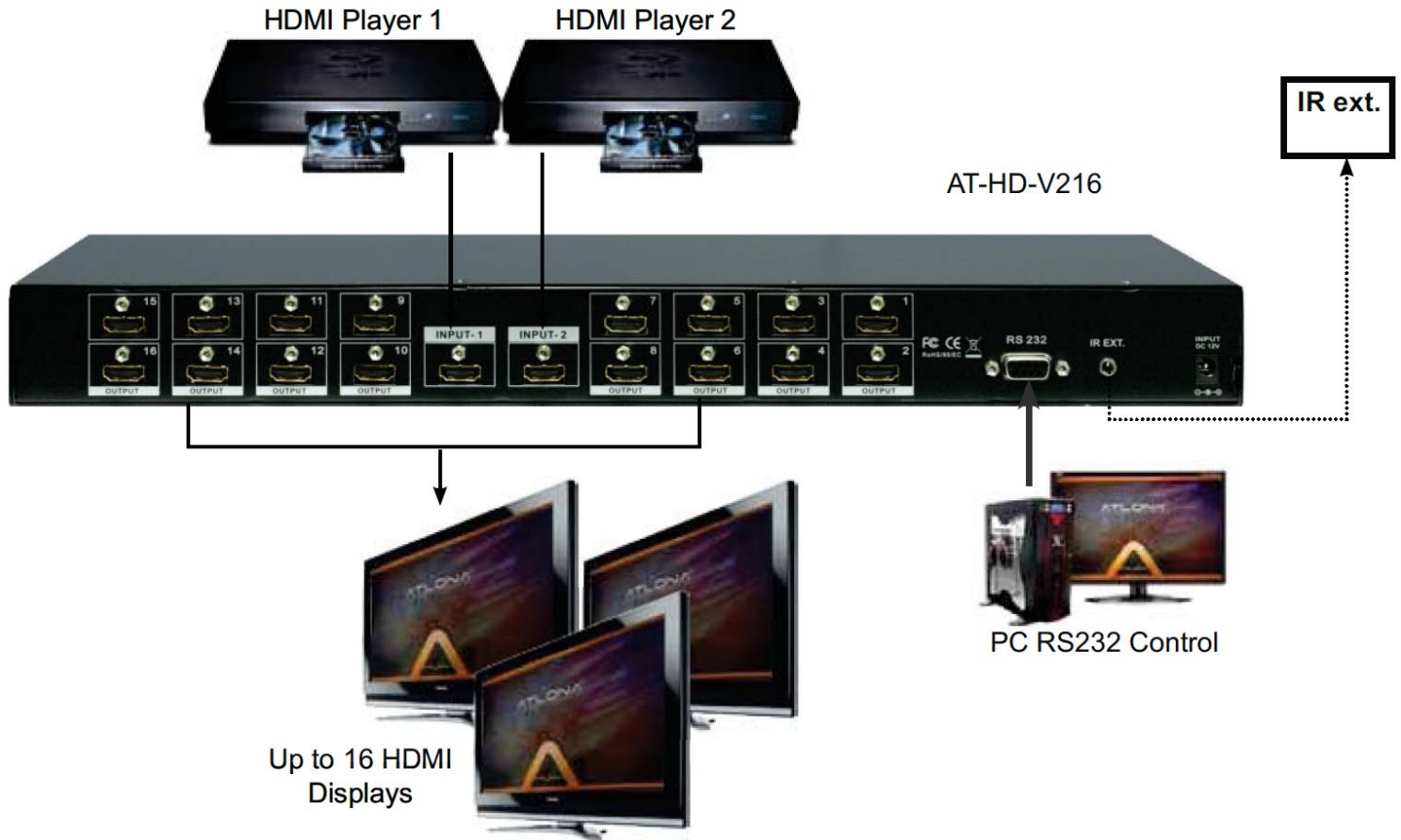
Example : Reset all outputs to Input 1

SBALLRST - Send

SBRSTACK - Rcvd



APPLICATIONS



SAFETY INFORMATION

Safeguards



To reduce the risk of electric shock, do not expose this product to rain or moisture



Do not modify the wall plug. Doing so will void the warranty and safety features.



If the wall plug does not fit into your local power socket, hire an electrician to replace your obsolete socket.



This equipment should be installed near the socket outlet and the device should be easily accessible in the case it requires disconnection.

Precautions

FCC regulations state that any unauthorized changes or modifications to this equipment, not expressly approved by the manufacturer, could void the user's authority to operate this equipment.

Operate this product using only the included external power supply. Use of other power supplies could impair performance, damage the product, or cause fires.

In the event of an electrostatic discharge this device may automatically turn off. If this occurs, unplug the device and plug it back in.

Protect and route power cords so they will not be stepped on or pinched by anything placed on or against them. Be especially careful of plug-ins or cord exit points from this product.

Avoid excessive humidity, sudden temperature changes or temperature extremes.

Keep this product away from wet locations such as bathtubs, sinks, laundries, wet basements, fish tanks, and swimming pools.

Use only accessories recommended by Atlona to avoid fire, shock, or other hazards.

Unplug the product before cleaning. Use a damp cloth for cleaning and not cleaning fluid or aerosols. Such products could enter the unit and cause damage, fire, or electric shock. Some substances may also mar the finish of the product.

Never open, remove unit panels, or make any adjustments not described in this manual. Attempting to do so could expose you to dangerous electrical shock or other hazards. It may also cause damage to your AT-HD-V216. Opening the product will void the warranty.

Do not attempt to service the unit. Disconnect the product and contact your authorized Atlona reseller or contact Atlona directly.

WARRANTY

Limited Warranty

Atlona Technologies warrants that (a) its products (the AT-HD-V216) will perform substantially in accordance with the accompanying written materials for a period of 3 years from the date of receipt and (b) that the product will be free from defects in materials and workmanship under normal use and service for a period of 3 years. In the event applicable law imposes any implied warranties, the implied warranty period is limited to 3 years from the date of receipt. Some jurisdictions do not allow such limitations on duration of an implied warranty, so the above limitation may not apply to customers that fall within those areas.

Customer Remedies

Atlona Technologies' and its suppliers' entire liability and Customer's exclusive remedy shall be, at Atlona Technologies' decision, either return of the price paid for the product, repair, or replacement of the product that does not meet this Limited Warranty and which is returned to Atlona Technologies with a copy of the Customer's receipt. This Limited Warranty is void if failure of the product has resulted from accident, abuse, misapplication, or natural occurrence. In example but not limited to: power surges (electrical storms, local power outage), dropping the product (or items on the product), contact with fluids, and physical misconduct (i.e. kicking or punching). Any replacement product will be warranted for the remainder of the original warranty period.

No other warranties

To the maximum extent permitted by applicable law, Atlona Technologies and its suppliers disclaim all other warranties, either expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, with regard to the product and any related written materials. This Limited Warranty gives customer specific legal rights. Customers may have other rights depending on the jurisdiction.

No liability for damages

To the maximum extent permitted by applicable law, in no event shall Atlona Technologies or its suppliers be liable for any damages arising out of the use of or inability to use this product, even if Atlona Technologies has been advised of the possibility of such damages. Such damages include but are not limited to: special, incidental, consequential, or indirect damages for personal injury, loss of business profits, business interruption, loss of business information, or any other pecuniary loss. Atlona Technologies' and its suppliers' entire liability under any provision of this agreement shall be limited to the amount actually paid by you for the product. Some Jurisdictions do not allow the exclusion or limitation of liability for consequential or incidental damage. The above limitations may not apply to you in such jurisdictional cases.

ATLONA PRODUCT REGISTRATION

Thank you for purchasing this Atlona product. - We hope you enjoy it and will take an extra few moments to register your new purchase.

Registration creates an ownership record if your product is lost or stolen and helps ensure you'll receive notification of performance issues and firmware updates.

At Atlona, we respect and protect your privacy, assuring you that your registration information is completely secure. Atlona product registration is completely voluntary and failure to register will not diminish your limited warranty rights.

To register go to: <http://www.atlona.com/registration>